

OPINION 1806

Ammonites nodosus (currently *Ceratites nodosus*; Cephalopoda, Ammonoidea): specific name attributed to Schlotheim, 1813, and a lectotype designated

Keywords. Nomenclature; taxonomy; Ammonoidea; Middle Triassic; ammonite; *Ceratites nodosus*.

Ruling

(1) Under the plenary powers:

- (a) the specific name *nodosa* Bruguière, 1798, as published in the binomen *Ammonites nodosa*, and all uses of the name prior to the publication of *Ammonites nodosus* Schlotheim, 1813 are hereby suppressed for the purposes of both the Principle of Priority and the Principle of Homonymy;
- (b) all previous fixations of type specimens for the nominal species *Ammonites nodosus* Schlotheim, 1813 prior to that by Urlichs & Mundlos (1987) are hereby set aside;
- (c) all previous designations of type species for the nominal genus *Ceratites* de Haan, 1825 are hereby set aside and *Ammonites nodosus* Schlotheim, 1813 is designated as the type species.

(2) The name *Ceratites* de Haan, 1825 (gender: masculine), type species by designation under the plenary powers in (1)(c) above *Ammonites nodosus* Schlotheim, 1813, is hereby placed on the Official List of Generic Names in Zoology.

(3) The name *nodosus* Schlotheim, 1813, as published in the binomen *Ammonites nodosus* (specific name of the type species of *Ceratites* de Haan, 1825) and as defined by the lectotype (specimen no. C785 in the Museum für Naturkunde an der Humboldt Universität, Berlin) designated by Urlichs & Mundlos (1987), ruled in (1)(b) above, is hereby placed on the Official List of Specific Names in Zoology.

(4) The name *nodosa* Bruguière, 1789, as published in the binomen *Ammonites nodosa* and as suppressed in (1)(a) above, is hereby placed on the Official Index of Rejected and Invalid Specific Names in Zoology.

History of Case 2732

An application to maintain the current usage of the specific name of *Ammonites nodosus* by attributing the name to Schlotheim (1813), and by fixing as the lectotype one of Schlotheim's specimens, was received from Dr Max Urlichs (*Staatliches Museum für Naturkunde Stuttgart, Stuttgart, Germany*) on 7 July 1989. After correspondence the case was published in BZN 48: 31–35 (March 1991). Notice of the case was sent to appropriate journals.

Comments in support were received from Prof Dr G. Hahn (*Rauschenberg, Germany*, published in BZN 48: 246, September 1991); Prof Dr G. Tichy (*Institut für Geologie und Paläontologie, Universität Salzburg, Salzburg, Austria*, published in BZN 49: 290, December 1992); Dr M. Horn (*Hessisches Landesamt für Bodenforschung, Wiesbaden, Germany*) and Prof Dr F. Strauch & Dr M. Bertling (*Geologisch-Paläontologisches Institut und Museum, Westfälische Wilhelms-Universität Münster, Münster, Germany*), both published in BZN 50: 54–56 (March 1993); and Dr Ulrich

Lehmann (*Geologisch-Paläontologisches Institut und Museum, Universität Hamburg, Hamburg, Germany*, published in BZN 50: 284, December 1993).

An opposing comment from Dr E.T. Tozer (*Geological Survey of Canada, Vancouver, British Columbia, Canada*), published in BZN 49: 145–149 (June 1992), included alternative proposals. These proposals were supported by the late Mr R.V. Melville (*Richmond, Surrey, U.K.*) and by Dr N.J. Silberling (*U.S. Geological Survey, Denver, Colorado, U.S.A.*) in comments published in BZN 50: 55–56 (March 1993) and BZN 50: 141–142 (June 1993) respectively. Replies to Tozer and to Melville from the author of the application were published in BZN 50: 229–231 (September 1993) and BZN 50: 284–285 (December 1993) respectively. Dr Tozer withdrew his alternative proposals in BZN 51: 147–149 (June 1994; see below).

It was noted on the voting paper that the case was complicated by five factors: (1) relevant 18th century collections were long believed lost and two concepts of *Ceratites nodosus*, which were based on old illustrations rather than specimens, had entered the literature; (2) Rieber & Tozer (1986) rediscovered one collection (that of Scheuchzer) in Zürich and designated a lectotype of *Ammonites nodosa* [recte *nodosus*] Bruguière from it, believing their action to be valid under the principle of priority; (3) Urlichs & Mundlos (1987) independently rediscovered another collection (Schlotheim's) in Berlin and proposed (subject to the Commission's ratification) a lectotype in accordance with what they maintained to be the usage of 'nodosus' in this century (and compatible with that of earlier times); (4) disagreement between these pairs of authors as to the past understandings of the name *Ceratites nodosus* (the nominal species *A. nodosus* is the type species of *Ceratites* de Haan, 1825); (5) *C. nodosus*, in the sense of the specimen designated by Urlichs & Mundlos, is an important index fossil in the Middle Triassic Muschelkalk of central Europe, where it characterises the Lower Ladinian 'nodosus zone', while *C. nodosus* sensu Rieber & Tozer occurs only at a lower (Upper Anisian) horizon.

The application sought the conservation of the (1987) Urlichs & Mundlos lectotype on the grounds of usage of the name *Ceratites nodosus*, and particularly because of its importance in this sense in stratigraphy. The Commission Secretariat had a list of 86 references demonstrating this usage. The name was attributed to Schlotheim (1813) rather than to Bruguière (1798) on the grounds that the usage of *C. nodosus* was based on a figure by Schlotheim and that the proposed type specimen was from the Schlotheim collection. The specimen (no. C785 in the Museum für Naturkunde an der Humboldt Universität, Berlin), given by Urlichs & Mundlos (1987) as the proposed lectotype of *A. nodosus* Schlotheim, was in accord with Schlotheim's (1823, pl. 31, fig. 1) illustration of *Ammonites nodosus*, with usage of the name by de Haan (1825) and Philippi (1901), and with the current concept of *Ceratites nodosus* in the region where it occurs. The application proposed that *Ammonites nodosa* Bruguière, 1789 be suppressed as a senior homonym, and that *C. nodosus* with the authorship of Schlotheim (1813) be designated the type species of *Ceratites* de Haan, 1825.

The application was supported by a large number of Austrian and German palaeontologists. Initially it was opposed by Dr E.T. Tozer and others on priority grounds, but subsequently (BZN 51: 147–149) Dr Tozer reluctantly withdrew his opposition in order that the European stratigraphic concept of *Ceratites nodosus* could continue, although he did not accept some historical aspects of the case as presented by Dr Urlichs.

The original proposals were presented for voting. Approval of them on pragmatic grounds would, it was agreed by all, stabilise the biostratigraphic use of *C. nodosus* and would not affect the universal understanding of the generic name *Ceratites* de Haan, 1825. Rejection, on the other hand, would cause confusion to continue. Urlichs (BZN 48: 33 and 50: 230, 284) and other commentators noted that acceptance of Tozer's proposals would transfer the name *nodosus* to the taxon currently called *C. (Doloceratites) robustus robustus*; this occurs not in the '*nodosus*-Zone' but at a lower horizon of the Middle Triassic Muschelkalk sequence of central Europe. The taxon currently known as *nodosus* would be called *C. undatus* (Reinecke, 1818) and the subgenus *Ceratites* (*Doloceratites*) would be called *C. (Ceratites)*; *C. (Doloceratites)* would require a new name.

Decision of the Commission

On 1 December 1994 the members of the Commission were invited to vote on the proposals published in BZN 48: 34. At the close of the voting period on 1 March 1995 the votes were as follows:

Affirmative votes — 23: Bayer, Bock, Bouchet, Cocks, Corliss, Hahn, Halvorsen, Heppell, Holthuis, Kabata, Kraus, Macpherson, Mahnert, Martins de Souza, Minelli, Nielsen, Nye, Ride, Savage, Schuster, Štys, Thompson, Willink

Negative votes — none.

Dupuis and Lehtinen abstained.

No votes were received from Cogger, Starobogatov, Trjapitzin and Uéno.

Cocks commented: 'This sort of case is precisely why the Commission exists. There seems little doubt that by following the lucid arguments of Melville (BZN 50: 55–56), for example, the true taxonomic concept of *nodosus* should be as originally stated by Tozer. However, these arguments are rightly set aside by the overriding concept of usefulness. By changing the key species of the *nodosus* Zone nothing would be achieved except instability of biostratigraphical nomenclature and the reasonable ire of the majority of geologists directed towards their palaeontological colleagues'. Heppell commented: 'I am in favour of the stability of the nomenclature of the type fossil ammonites which characterize the Triassic *Ceratites nodosus* zone but I disagree with the method used to achieve this. Both Melville and Tozer pointed out that Schlotheim (1813) was not establishing a new nominal species, so we are dealing with the interpretation of *Ammonites nodosa* Bruguière, 1789. As the specimens, cited illustrations and description of that nominal species are either ambiguous or at odds with the accepted identity of the fossils of the eponymous geological zone, it is certainly necessary to fix the name to an acceptable type specimen by the use of the plenary powers. I believe this would have best been achieved by setting aside all previous fixations of type specimen for *A. nodosa* Bruguière and selecting a neotype. The 'lectotype' of *A. nodosa* 'Schlotheim' would be a candidate for this if, as it seems to be, it is in agreement with the current geological usage of Bruguière's name'. In abstaining Dupuis made a similar comment, and Lehtinen noted: 'I am abstaining because Schlotheim never described taxa that it is proposed should now bear his authorship'.

Original references

The following are the original references to the names placed on Official Lists by the ruling given in the present Opinion:

Ceratites de Haan, 1825, *Monographiae Ammoniteorum et Goniatiteorum Specimen*, p. 39.
nodosa, *Ammonites*, Bruguière, 1798, *Encyclopédie méthodique. 1. Histoire naturelle des vers*,
p. 43.
nodosus, *Ammonites*, Schlotheim, 1813, *Beiträge zur Naturgeschichte der Versteinerungen in
geognostischer Sicht. Taschenbuch für die gesammte Mineralogie*, 7: 100.

The following is the reference for the designation of the lectotype of *Ammonites nodosus*
Schlotheim, 1813:

Urlichs, M. & Mundlos, R. 1987. *Stuttgarter Beiträge zur Naturkunde*, (B)128: 7.